

## Sequence Listing

&lt;110&gt; Hofmann, Kay

&lt;120&gt; Protease

&lt;130&gt; Protease Memorec

&lt;140&gt; US 09/869,309

&lt;141&gt; 2001-07-20

&lt;150&gt; 19902550.9

&lt;151&gt; 1999-01-22

&lt;150&gt; 19925946.1

&lt;151&gt; 1999-06-08

&lt;150&gt; 19929115.2

&lt;151&gt; 1999-06-24

&lt;160&gt; 20

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 592

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

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Met Ala Ala Val Ala Ala Ala Leu Ala Arg Leu Leu Ala Ala Phe
 1             5             10             15

Leu Leu Leu Ala Ala Gln Val Ala Cys Glu Tyr Gly Met Val His Val
      20             25             30

Val Ser Gln Ala Gly Gly Pro Glu Gly Lys Asp Tyr Cys Ile Leu Tyr
      35             40             45

Asn Pro Gln Trp Ala His Leu Pro His Asp Leu Ser Lys Ala Ser Phe
      50             55             60

Leu Gln Leu Arg Asn Trp Thr Ala Ser Leu Leu Cys Ser Ala Ala Asp
      65             70             75             80

Leu Pro Ala Arg Gly Phe Ser Asn Gln Ile Pro Leu Val Ala Arg Gly
      85             90             95

Asn Cys Thr Phe Tyr Glu Lys Val Arg Leu Ala Gln Gly Ser Gly Ala
      100            105            110

Arg Gly Leu Leu Ile Val Ser Arg Glu Arg Leu Val Pro Pro Gly Gly
      115            120            125

Asn Lys Thr Gln Tyr Asp Glu Ile Gly Ile Pro Val Ala Leu Leu Ser
      130            135            140

Tyr Lys Asp Met Leu Asp Ile Phe Thr Arg Phe Gly Arg Thr Val Arg
      145            150            155            160

Ala Ala Leu Tyr Ala Pro Lys Glu Pro Val Leu Asp Tyr Asn Met Val
      165            170            175

Ile Ile Phe Ile Met Ala Val Gly Thr Val Ala Ile Gly Gly Tyr Trp

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180					185					190					
Ala	Gly	Ser	Arg	Asp	Val	Lys	Lys	Arg	Tyr	Met	Lys	His	Lys	Arg	Asp
		195					200					205			
Asp	Gly	Pro	Glu	Lys	Gln	Glu	Asp	Glu	Ala	Val	Asp	Val	Thr	Pro	Val
	210					215					220				
Met	Thr	Cys	Val	Phe	Val	Val	Met	Cys	Cys	Ser	Met	Leu	Val	Leu	Leu
	225			230					235					240	
Tyr	Tyr	Phe	Tyr	Asp	Leu	Leu	Val	Tyr	Val	Val	Ile	Gly	Ile	Phe	Cys
			245					250					255		
Leu	Ala	Ser	Ala	Thr	Gly	Leu	Tyr	Ser	Cys	Leu	Ala	Pro	Cys	Val	Arg
			260					265					270		
Arg	Leu	Pro	Phe	Gly	Lys	Cys	Arg	Ile	Pro	Asn	Asn	Ser	Leu	Pro	Tyr
		275					280					285			
Phe	His	Lys	Arg	Pro	Gln	Ala	Arg	Met	Leu	Leu	Leu	Ala	Leu	Phe	Cys
	290					295					300				
Val	Ala	Val	Ser	Val	Val	Trp	Gly	Val	Phe	Arg	Asn	Glu	Asp	Gln	Trp
	305			310					315					320	
Ala	Trp	Val	Leu	Gln	Asp	Ala	Leu	Gly	Ile	Ala	Phe	Cys	Leu	Tyr	Met
			325					330						335	
Leu	Lys	Thr	Ile	Arg	Leu	Pro	Thr	Phe	Lys	Ala	Cys	Thr	Leu	Leu	Leu
			340					345					350		
Leu	Val	Leu	Phe	Leu	Tyr	Asp	Ile	Phe	Phe	Val	Phe	Ile	Thr	Pro	Phe
		355					360					365			
Leu	Thr	Lys	Ser	Gly	Ser	Ser	Ile	Met	Val	Glu	Val	Ala	Thr	Gly	Pro
	370					375					380				
Ser	Asp	Ser	Ala	Thr	Arg	Glu	Lys	Leu	Pro	Met	Val	Leu	Lys	Val	Pro
	385			390					395					400	
Arg	Leu	Asn	Ser	Ser	Pro	Leu	Ala	Leu	Cys	Asp	Arg	Pro	Phe	Ser	Leu
			405						410					415	
Leu	Gly	Phe	Gly	Asp	Ile	Leu	Val	Pro	Gly	Leu	Leu	Val	Ala	Tyr	Cys
			420					425					430		
His	Arg	Phe	Asp	Ile	Gln	Val	Gln	Ser	Ser	Arg	Val	Tyr	Phe	Val	Ala
		435					440					445			
Cys	Thr	Ile	Ala	Tyr	Gly	Val	Gly	Leu	Leu	Val	Thr	Phe	Val	Ala	Leu
	450					455					460				
Ala	Leu	Met	Gln	Arg	Gly	Gln	Pro	Ala	Leu	Leu	Tyr	Leu	Val	Pro	Cys
	465			470					475					480	
Thr	Leu	Val	Thr	Ser	Cys	Ala	Val	Ala	Leu	Trp	Arg	Arg	Glu	Leu	Gly
			485					490						495	
Val	Phe	Trp	Thr	Gly	Ser	Gly	Phe	Ala	Lys	Val	Leu	Pro	Pro	Ser	Pro
			500				505						510		
Trp	Ala	Pro	Ala	Pro	Ala	Asp	Gly	Pro	Gln	Pro	Pro	Lys	Asp	Ser	Ala
		515					520					525			

REC'D PCT/PTO 16 OCT 2001  
09/869309

Thr Pro Leu Ser Pro Gln Pro Pro Ser Glu Glu Pro Ala Thr Ser Pro  
530 535 540

Trp Pro Ala Glu Gln Ser Pro Lys Ser Arg Thr Ser Glu Glu Met Gly  
545 550 555 560

Ala Gly Ala Pro Met Arg Glu Pro Gly Ser Pro Ala Glu Ser Glu Gly  
565 570 575

Arg Asp Gln Ala Gln Pro Ser Pro Val Thr Gln Pro Gly Ala Ser Ala  
580 585 590

<210> 2  
<211> 520  
<212> PRT  
<213> Homo sapiens

<400> 2  
Met Gly Pro Gln Arg Arg Leu Ser Pro Ala Gly Ala Ala Leu Leu Trp  
1 5 10 15

Gly Phe Leu Leu Gln Leu Thr Ala Ala Gln Glu Ala Ile Leu His Ala  
20 25 30

Ser Gly Asn Gly Thr Thr Lys Asp Tyr Cys Met Leu Tyr Asn Pro Tyr  
35 40 45

Trp Thr Ala Leu Pro Ser Thr Leu Glu Asn Ala Thr Ser Ile Ser Leu  
50 55 60

Met Asn Leu Thr Ser Thr Pro Leu Cys Asn Leu Ser Asp Ile Pro Pro  
65 70 75 80

Val Gly Ile Lys Ser Lys Ala Val Val Val Pro Trp Gly Ser Cys His  
85 90 95

Phe Leu Glu Lys Ala Arg Ile Ala Gln Lys Gly Gly Ala Glu Ala Met  
100 105 110

Leu Val Val Asn Asn Ser Val Leu Phe Pro Pro Ser Gly Asn Arg Ser  
115 120 125

Glu Phe Pro Asp Val Lys Ile Leu Ile Ala Phe Ile Ser Tyr Lys Asp  
130 135 140

Phe Arg Asp Met Asn Gln Thr Leu Gly Asp Asn Ile Thr Val Lys Met  
145 150 155 160

Tyr Ser Pro Ser Trp Pro Asn Phe Asp Tyr Thr Met Val Val Ile Phe  
165 170 175

Val Ile Ala Val Phe Thr Val Ala Leu Gly Gly Tyr Trp Ser Gly Leu  
180 185 190

Val Glu Leu Glu Asn Leu Lys Ala Val Thr Thr Glu Asp Arg Glu Met  
195 200 205

Arg Lys Lys Lys Glu Glu Tyr Leu Thr Phe Ser Pro Leu Thr Val Val  
210 215 220

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Ile Phe Val Val Ile Cys Cys Val Met Met Val Leu Leu Tyr Phe Phe
225                230                235                240

Tyr Lys Trp Leu Val Tyr Val Met Ile Ala Ile Phe Cys Ile Ala Ser
                245                250                255

Ala Met Ser Leu Tyr Asn Cys Leu Ala Ala Leu Ile His Lys Ile Pro
                260                265                270

Tyr Gly Gln Cys Thr Ile Ala Cys Arg Gly Lys Asn Met Glu Val Arg
                275                280                285

Leu Ile Phe Leu Ser Gly Leu Cys Ile Ala Val Ala Val Val Trp Ala
290                295                300

Val Phe Arg Asn Glu Asp Arg Trp Ala Trp Ile Leu Gln Asp Ile Leu
305                310                315                320

Gly Ile Ala Phe Cys Leu Asn Leu Ile Lys Thr Leu Lys Leu Pro Asn
                325                330                335

Phe Lys Ser Cys Val Ile Leu Leu Gly Leu Leu Leu Leu Tyr Asp Val
                340                345                350

Phe Phe Val Phe Ile Thr Pro Phe Ile Thr Lys Asn Gly Glu Ser Ile
                355                360                365

Met Val Glu Leu Ala Ala Gly Pro Phe Gly Asn Asn Glu Lys Leu Pro
370                375                380

Val Val Ile Arg Val Pro Lys Leu Ile Tyr Phe Ser Val Met Ser Val
385                390                395                400

Cys Leu Met Pro Val Ser Ile Leu Gly Phe Gly Asp Ile Ile Val Pro
                405                410                415

Gly Leu Leu Ile Ala Tyr Cys Arg Arg Phe Asp Val Gln Thr Gly Ser
420                425                430

Ser Tyr Ile Tyr Tyr Val Ser Ser Thr Val Ala Tyr Ala Ile Gly Met
435                440                445

Ile Leu Thr Phe Val Val Leu Val Leu Met Lys Lys Gly Gln Pro Ala
450                455                460

Leu Leu Tyr Leu Val Pro Cys Thr Leu Ile Thr Ala Ser Val Val Ala
465                470                475                480

Trp Arg Arg Lys Glu Met Lys Lys Phe Trp Lys Gly Asn Ser Tyr Gln
                485                490                495

Met Met Asp His Leu Asp Cys Ala Thr Asn Glu Glu Asn Pro Val Ile
500                505                510

Ser Gly Glu Gln Ile Val Gln Gln
515                520

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<210> 3
<211> 377
<212> PRT
<213> Homo sapiens

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<400> 3

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Met Asp Ser Ala Leu Ser Asp Pro His Asn Gly Ser Ala Glu Ala Gly
 1           5           10           15
Gly Pro Thr Asn Ser Thr Thr Arg Pro Pro Ser Thr Pro Glu Gly Ile
           20           25           30
Ala Leu Ala Tyr Gly Ser Leu Leu Leu Met Ala Leu Leu Pro Ile Phe
 35           40           45
Phe Gly Ala Leu Arg Ser Val Arg Cys Ala Arg Gly Lys Asn Ala Ser
 50           55           60
Asp Met Pro Glu Thr Ile Thr Ser Arg Asp Ala Ala Arg Phe Pro Ile
 65           70           75           80
Ile Ala Ser Cys Thr Leu Leu Gly Leu Tyr Leu Phe Phe Lys Ile Phe
           85           90           95
Ser Gln Glu Tyr Ile Asn Leu Leu Leu Ser Met Tyr Phe Phe Val Leu
           100           105           110
Gly Ile Leu Ala Leu Ser His Thr Ile Ser Pro Phe Met Asn Lys Phe
           115           120           125
Phe Pro Ala Ser Phe Pro Asn Arg Gln Tyr Gln Leu Leu Phe Thr Gln
           130           135           140
Gly Ser Gly Glu Asn Lys Glu Glu Ile Ile Asn Tyr Glu Phe Asp Thr
145           150           155           160
Lys Asp Leu Val Cys Leu Gly Leu Ser Ser Ile Val Gly Val Trp Tyr
           165           170           175
Leu Leu Arg Lys His Trp Ile Ala Asn Asn Leu Phe Gly Leu Ala Phe
           180           185           190
Ser Leu Asn Gly Val Glu Leu Leu His Leu Asn Asn Val Ser Thr Gly
           195           200           205
Cys Ile Leu Leu Gly Gly Leu Phe Ile Tyr Asp Val Phe Trp Val Phe
           210           215           220
Gly Thr Asn Val Met Val Thr Val Ala Lys Ser Phe Glu Ala Pro Ile
225           230           235           240
Lys Leu Val Phe Pro Gln Asp Leu Leu Glu Lys Gly Leu Glu Ala Asn
           245           250           255
Asn Phe Ala Met Leu Gly Leu Gly Asp Val Val Ile Pro Gly Ile Phe
           260           265           270
Ile Ala Leu Leu Leu Arg Phe Asp Ile Ser Leu Lys Lys Asn Thr His
           275           280           285
Thr Tyr Phe Tyr Thr Ser Phe Ala Ala Tyr Ile Phe Gly Leu Gly Leu
           290           295           300
Thr Ile Phe Ile Met His Ile Phe Lys His Ala Gln Pro Ala Leu Leu
305           310           315           320
Tyr Leu Val Pro Ala Cys Ile Gly Phe Pro Val Leu Val Ala Leu Ala
           325           330           335
Lys Gly Glu Val Thr Glu Met Phe Ser Tyr Glu Glu Ser Asn Pro Lys
           340           345           350

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Asp Pro Ala Ala Val Thr Glu Ser Lys Glu Gly Thr Glu Ala Ser Ala  
 355 360 365

Ser Lys Gly Leu Glu Lys Lys Glu Lys  
 370 375

<210> 4

<211> 384

<212> PRT

<213> Homo sapiens

<400> 4

Met Ala Glu Gln Thr Tyr Ser Trp Ala Tyr Ser Leu Val Asp Ser Ser  
 1 5 10 15

Gln Val Ser Thr Phe Leu Ile Ser Ile Leu Leu Ile Val Tyr Gly Ser  
 20 25 30

Phe Arg Ser Leu Asn Met Asp Phe Glu Asn Gln Asp Lys Glu Lys Asp  
 35 40 45

Ser Asn Ser Ser Ser Gly Ser Phe Asn Gly Asn Ser Thr Asn Asn Ser  
 50 55 60

Ile Gln Thr Ile Asp Ser Thr Gln Ala Leu Phe Leu Pro Ile Gly Ala  
 65 70 75 80

Ser Val Ser Leu Leu Val Met Phe Phe Phe Phe Asp Ser Val Gln Val  
 85 90 95

Val Phe Thr Ile Cys Thr Ala Val Leu Ala Thr Ile Ala Phe Ala Phe  
 100 105 110

Leu Leu Leu Pro Met Cys Gln Tyr Leu Thr Arg Pro Cys Ser Pro Gln  
 115 120 125

Asn Lys Ile Ser Phe Gly Cys Cys Gly Arg Phe Thr Ala Ala Glu Leu  
 130 135 140

Leu Ser Phe Ser Leu Ser Val Met Leu Val Leu Ile Trp Val Leu Thr  
 145 150 155 160

Gly His Trp Leu Leu Met Asp Ala Leu Ala Met Gly Leu Cys Val Ala  
 165 170 175

Met Ile Ala Phe Val Arg Leu Pro Ser Leu Lys Val Ser Cys Leu Leu  
 180 185 190

Leu Ser Gly Leu Leu Ile Tyr Asp Val Phe Trp Val Phe Phe Ser Ala  
 195 200 205

Tyr Ile Phe Asn Ser Asn Val Met Val Lys Val Ala Thr Gln Pro Ala  
 210 215 220

Asp Asn Pro Leu Asp Val Leu Ser Arg Lys Leu His Leu Gly Pro Asn  
 225 230 235 240

Val Gly Arg Asp Val Pro Arg Leu Ser Leu Pro Gly Lys Leu Val Phe  
 245 250 255

Pro Ser Ser Thr Gly Ser His Phe Ser Met Leu Gly Ile Gly Asp Ile  
 260 265 270

Val Met Pro Gly Leu Leu Leu Cys Phe Val Leu Arg Tyr Asp Asn Tyr  
 275 280 285  
 Lys Lys Gln Ala Ser Gly Asp Ser Cys Gly Ala Pro Gly Pro Ala Asn  
 290 295 300  
 Ile Ser Gly Arg Met Gln Lys Val Ser Tyr Phe His Cys Thr Leu Ile  
 305 310 315 320  
 Gly Tyr Phe Val Gly Leu Leu Thr Ala Thr Val Ala Ser Arg Ile His  
 325 330 335  
 Arg Ala Ala Gln Pro Ala Leu Leu Tyr Leu Val Pro Phe Thr Leu Leu  
 340 345 350  
 Pro Leu Leu Thr Met Ala Tyr Leu Lys Gly Asp Leu Arg Arg Met Trp  
 355 360 365  
 Ser Glu Pro Phe His Ser Lys Ser Ser Ser Ser Arg Phe Leu Glu Val  
 370 375 380

<210> 5  
 <211> 113  
 <212> PRT  
 <213> Mus musculus

<400> 5  
 Val Leu Gly Phe Gly Asp Ile Ile Val Pro Gly Leu Leu Ile Ala Tyr  
 1 5 10 15  
 Cys Arg Arg Phe Asp Val Gln Thr Gly Ser Ser Ile Tyr Tyr Ile Ser  
 20 25 30  
 Ser Thr Ile Ala Tyr Ala Val Gly Met Ile Ile Thr Phe Val Val Leu  
 35 40 45  
 Met Val Met Lys Thr Gly Gln Pro Ala Leu Leu Tyr Leu Val Pro Cys  
 50 55 60  
 Thr Leu Ile Thr Val Ser Val Val Ala Trp Ser Arg Lys Glu Met Lys  
 65 70 75 80  
 Lys Phe Trp Lys Gly Ser Ser Tyr Gln Val Met Asp His Leu Asp Tyr  
 85 90 95  
 Ser Thr Asn Glu Glu Asn Pro Val Thr Thr Asp Glu Gln Ile Val Gln  
 100 105 110

Gln

<210> 6  
 <211> 378  
 <212> PRT  
 <213> Mus musculus

<400> 6

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Met Asp Ser Ala Val Ser Asp Pro His Asn Gly Ser Ala Glu Ala Gly
 1           5           10           15

Thr Pro Ala Asn Gly Thr Thr Arg Pro Pro Ser Thr Pro Glu Gly Ile
          20           25           30

Ala Leu Ala Tyr Gly Ser Leu Leu Leu Met Ala Leu Leu Pro Ile Phe
      35           40           45

Phe Gly Ala Leu Pro Ser Val Arg Cys Ala Arg Gly Lys Ser Ser Ser
 50           55           60

Asp Met Pro Glu Thr Ile Thr Ser Arg Asp Ala Ala Arg Phe Pro Ile
65           70           75           80

Ile Ala Ser Cys Thr Leu Leu Gly Leu Tyr Leu Phe Phe Lys Ile Phe
          85           90           95

Ser Gln Glu Tyr Ile Asn Leu Leu Leu Ser Met Tyr Phe Phe Val Leu
          100           105           110

Gly Ile Leu Ala Leu Ser His Thr Ile Ser Pro Phe Met Asn Lys Phe
      115           120           125

Phe Pro Ala Asn Phe Pro Asn Arg Gln Tyr Gln Leu Leu Phe Thr Gln
      130           135           140

Gly Ser Gly Glu Asn Lys Glu Glu Ile Ile Asn Tyr Glu Phe Asp Thr
145           150           155           160

Lys Asp Leu Val Cys Leu Gly Leu Ser Ser Val Val Gly Val Trp Tyr
          165           170           175

Leu Leu Arg Lys His Trp Ile Ala Asn Asn Leu Phe Gly Leu Ala Phe
          180           185           190

Ser Leu Asn Gly Val Glu Leu Leu His Leu Asn Asn Val Ser Thr Gly
      195           200           205

Cys Ile Leu Leu Gly Gly Leu Phe Ile Tyr Asp Ile Phe Trp Val Phe
      210           215           220

Gly Thr Asn Val Met Val Thr Val Ala Lys Ser Phe Glu Ala Pro Ile
      225           230           235           240

Lys Leu Val Phe Pro Gln Asp Leu Leu Glu Lys Gly Leu Glu Ala Asp
          245           250           255

Asn Phe Ala Met Leu Gly Leu Gly Asp Ile Val Ile Pro Gly Ile Phe
          260           265           270

Ile Ala Leu Leu Leu Arg Phe Asp Ile Ser Leu Lys Lys Asn Thr His
      275           280           285

Thr Tyr Phe Tyr Thr Ser Phe Ala Ala Tyr Ile Phe Gly Leu Gly Leu
      290           295           300

Thr Ile Phe Ile Met His Ile Phe Lys His Ala Gln Pro Ala Leu Leu
      305           310           315           320

Tyr Leu Val Pro Ala Cys Ile Gly Phe Pro Val Leu Val Ala Leu Ala
          325           330           335

Lys Gly Glu Val Ala Glu Met Phe Ser Tyr Glu Glu Ser Asn Pro Lys
          340           345           350

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Asp Pro Ala Ala Val Thr Glu Ser Lys Glu Glu Ser Thr Glu Ala Ser  
 355 360 365

Ala Ser Lys Arg Leu Glu Lys Lys Glu Lys  
 370 375

<210> 7

<211> 257

<212> PRT

<213> Mus musculus

<400> 7

Gln Asn Lys Ile Ser Phe Gly Cys Cys Gly Arg Phe Thr Ala Ala Glu  
 1 5 10 15

Leu Leu Ser Phe Tyr Leu Ser Val Met Leu Val Leu Ile Trp Val Leu  
 20 25 30

Thr Gly His Trp Leu Leu Met Asp Ala Leu Ala Met Gly Leu Cys Val  
 35 40 45

Ala Met Ile Ala Phe Val Arg Leu Pro Ser Leu Lys Val Ser Cys Leu  
 50 55 60

Leu Leu Ser Gly Leu Leu Ile Tyr Asp Val Phe Trp Val Phe Phe Ser  
 65 70 75 80

Ala Tyr Ile Phe Asn Ser Asn Val Met Val Lys Val Ala Thr Gln Pro  
 85 90 95

Ala Asp Asn Pro Leu Asp Val Leu Ser Arg Lys Leu His Leu Gly Pro  
 100 105 110

Asn Val Gly Arg Asp Val Pro Arg Leu Ser Leu Pro Gly Lys Leu Val  
 115 120 125

Phe Pro Ser Ser Thr Gly Ser His Phe Ser Met Leu Gly Ile Gly Asp  
 130 135 140

Ile Val Met Pro Gly Leu Leu Leu Cys Phe Val Leu Arg Tyr Asp Asn  
 145 150 155 160

Tyr Lys Lys Gln Ala Ser Gly Asp Ser Cys Gly Ala Pro Gly Xaa Ala  
 165 170 175

Asn Ile Ser Gly Arg Met Gln Lys Val Ser Tyr Phe His Cys Thr Leu  
 180 185 190

Ile Gly Tyr Phe Val Gly Leu Leu Thr Ala Thr Val Ala Ser Arg Val  
 195 200 205

His Arg Ala Ala Gln Pro Ala Leu Leu Tyr Leu Val Pro Phe Thr Leu  
 210 215 220

Leu Pro Leu Leu Thr Met Ala Tyr Leu Lys Gly Asp Leu Arg Arg Met  
 225 230 235 240

Trp Ser Glu Pro Phe His Ser Lys Ser Ser Ser Ser Arg Phe Leu Glu  
 245 250 255

Val

&lt;210&gt; 8

&lt;211&gt; 587

&lt;212&gt; PRT

<213> *Saccharomyces cerevisiae*

&lt;400&gt; 8

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Met Asp Lys Tyr Leu Asn Ser Phe Val Asp His Leu Ser Glu Trp Ser
 1          5          10          15

Ser Arg Ala Phe Arg Asn Asn Ser Ser Ser Ala Asn Gln Ser Ala Ser
      20          25          30

Asn Lys Glu Leu Glu Gln Val Phe Glu Gln Ile Asn Ala Ile Val Glu
 35          40          45

Asn His Asn Asn Lys Leu Thr Thr Ala Phe Asp Lys Ile Ser Tyr Arg
 50          55          60

Val Ala His Lys Ile Thr His Leu Val Glu Ser His Ser Leu Val Phe
 65          70          75          80

Asn Tyr Ala Thr Leu Val Leu Ile Ala Ser Ala Leu Val Val Ile Gly
      85          90          95

Ser Phe Thr Ser Ile Ser Ser Ile Pro Phe Thr Ala Leu Pro Pro Thr
      100          105          110

Arg Glu His Ser Leu Phe Asp Pro Thr Asp Phe Asp Val Asp His Asp
      115          120          125

Cys His Val Ile Tyr Arg Glu Asn Asp Glu Asp Lys Lys Lys Lys Lys
      130          135          140

Lys Ser Lys Arg Phe Phe Asp Met Met Asp Glu Lys His Ala Ile Ile
      145          150          155          160

Leu Pro Leu Thr Ser Gly Cys Thr Leu Leu Ala Leu Tyr Phe Val Ile
      165          170          175

Lys Lys Leu His Leu Asn Trp Leu Lys Tyr Val Val Lys Ile Leu Asn
      180          185          190

Phe Asn Ile Thr Leu Leu Asn Ile Pro Ala Gly Thr Phe Val Tyr Ser
      195          200          205

Tyr Phe Leu Asn Ser Leu Phe Arg Asn Leu Ser His Leu Ala Ser Trp
      210          215          220

Asn Pro Leu Val Val Leu Pro Arg Tyr Arg Val Thr Ile Ala Asp Asp
      225          230          235          240

Asn Glu Asp Leu Asn Lys Ile Gly Gly Phe Val Thr Asn Leu Asn Tyr
      245          250          255

Lys Asp Gly Leu Thr Asn Ser Val Val His Lys Lys Thr Leu Asp Glu
      260          265          270

Ile Glu Lys Asp His Trp Met Lys His Phe Tyr Arg Arg Glu Leu Val
      275          280          285

Glu Pro Lys Asp Ile Lys Ser Lys Arg Gln Ile Ser Asn Met Tyr Leu
      290          295          300

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Asn Ser Ala Leu Ile Val Ser Phe Val Leu Ser Ile Val Ser Thr Val
305                      310                      315                      320

Tyr Phe Tyr Leu Ser Pro Asn Asp Trp Leu Ile Ser Asn Ala Val Ser
                      325                      330                      335

Met Asn Met Ala Ile Trp Ser Ile Ala Gln Leu Lys Leu Lys Asn Leu
                      340                      345                      350

Lys Ser Gly Ala Leu Ile Leu Ile Ala Leu Phe Phe Tyr Asp Ile Cys
                      355                      360                      365

Phe Val Phe Gly Thr Asp Val Met Val Thr Val Ala Thr Asn Leu Asp
                      370                      375                      380

Ile Pro Val Lys Leu Ser Leu Pro Val Lys Phe Asn Thr Ala Gln Asn
385                      390                      395                      400

Asn Phe Asn Phe Ser Ile Leu Gly Leu Gly Asp Ile Ala Leu Pro Gly
                      405                      410                      415

Met Phe Ile Ala Met Cys Tyr Lys Tyr Asp Ile Trp Lys Trp His Leu
                      420                      425                      430

Asp His Asp Asp Thr Glu Phe His Phe Leu Asn Trp Ser Tyr Val Gly
                      435                      440                      445

Lys Tyr Phe Ile Thr Ala Met Val Ser Tyr Val Ala Ser Leu Val Ser
                      450                      455                      460

Ala Met Val Ser Leu Ser Ile Phe Asn Thr Ala Gln Pro Ala Leu Leu
465                      470                      475                      480

Tyr Ile Val Pro Ser Leu Leu Ile Ser Thr Ile Leu Val Ala Cys Trp
                      485                      490                      495

Asn Lys Asp Phe Lys Gln Phe Trp Asn Phe Gln Tyr Asp Thr Ile Glu
                      500                      505                      510

Val Asp Lys Ser Leu Lys Lys Ala Ile Glu Lys Lys Glu Asn Ser Ile
                      515                      520                      525

Thr Tyr Ser Thr Phe Ile Leu Ser Glu Tyr Tyr Asn Asp Ala Asp Lys
                      530                      535                      540

Tyr Ala Leu Leu Gly Asp Asp Val Asn Glu Asn Phe Asp Asp Asp Glu
545                      550                      555                      560

Glu Phe Val Gln Glu Glu Asp Leu Ser Asp Ser Ser Glu Glu Glu Leu
                      565                      570                      575

Ser Glu Glu Asp Leu Leu Asp Asp Glu Ser Ser
                      580                      585

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&lt;210&gt; 9

&lt;211&gt; 1776

&lt;212&gt; DNA

<213> *Saccharomyces cerevisiae*

&lt;400&gt; 9

atggcggcag cgggtggcggc tgcgctggcg cggcttttgg cggcctttct gctcctcgcg 60

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gccaggtgg cctgtgagta cggcatggtg cacgtggtct cccaggccgg gggccccgaa 120
ggcaaagact actgcatcct ctacaacccg cagtgggccc atcttccgca cgacctcagc 180
aaggcatctt tctgtcagct gcgcaactgg acggcctccc tgctctgctc cgcagccgac 240
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tatgagaaaag tgaggctggc ccagggcagc ggagcacgcg ggctgctcat cgtcagcagg 360
gagaggctgg tccccccggg gggtaataag acgcagtatg atgagattgg cattcccgtg 420
gccctgctca gctacaaaga catgctggac atcttcacgc gtttcggccg cacggtgagg 480
gcggcgctgt atgcgcctaa ggagccggtg ctggactaca acatggctcat catcttcac 540
atggctgtgg gcaccgtcgc catcgccggc tactgggccc ggagtcggga cgtgaagaaa 600
aggtacatga agcacaagcg cgacgatggg cccgagaagc aggaggacga ggcggtggac 660
gtgacgccgg tgatgacctg cgtgtttgtg gtgatgtgct gctccatgct ggtgctgctc 720
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 11

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1761

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Page 19

Val Val Ile Arg Val Pro Lys Leu Ile Tyr Phe Ser Val Met Ser Val  
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Lys Glu Asp Asn Glu Asp Ile Pro Val Asp Phe Thr Pro Ala Met Thr
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Phe Tyr Asp His Phe Val Tyr Val Thr Ile Gly Ile Phe Gly Leu Gly
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Asp Thr Leu Gly Ile Ser Tyr Cys Leu Phe Val Leu His Arg Val Arg
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Phe Asp Val Phe Phe Val Phe Val Thr Pro Phe Phe Thr Lys Thr Gly
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His Glu Arg Leu Pro Met Val Leu Lys Val Pro Arg Leu Arg Val Ser
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 580 585 590  
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&lt;211&gt; 2052

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&lt;213&gt; Homo sapiens

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